

REMARKS

Formalities

Applicants thank the Examiner for indicating that the drawings filed on August 28, 2003 have been accepted.

However, the Examiner did not sign and forward a copy of the PTO 1449 Form submitted by Applicants with the Information Disclosure Statement filed on February 28, 2007. Accordingly, Applicants respectfully request that the Examiner sign the aforementioned PTO 1449 Form, initial the references cited therein, and return it along with the next office paper.

Status of Application

Claims 1-28 are all the claims pending in the application. Claims 22-26 have been withdrawn.

By the present Amendment, claims 1 and 11 have been amended and claim 14 has been canceled without prejudice or disclaimer.

The present Amendment addresses each point of objection and rejection raised by the Examiner. Favorable reconsideration is respectfully requested.

Claim Rejections - 35 U.S.C. § 103

I. Independent Claim 1

Claim 1 is rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Publication No. 2002/0145711 to Magome *et al.* (hereinafter “Magome”) in view of JP 2000-103629 to Urano *et al.* (hereinafter “Urano”). Applicants respectfully traverse this rejection for *at least* the reasons set forth below.

The grounds of rejection have failed to meet the requisite burden of establishing a *prima facie* case of obviousness with respect to claim 1 because they have failed to show that Magome, Urano, or some combination thereof, teaches or suggests all the claim recitations, as required by MPEP §2142-2143. For example, for *at least* the reasons already made of record by Applicants, neither Magome, Urano, nor any combination thereof, teaches, shows, or suggests the feature of hydrogen having a partial pressure of 0.01 to 500 kgf/cm², as recited in claim 1. Further, for *at least* the reasons already of record, neither reference, nor any combination thereof, even remotely suggests the feature of a continuous supply of hydrogen into the container.

In response to Applicants' previous arguments to this effect, the Examiner takes the position that this latter limitation is not recited in the rejected claims. Applicants respectfully disagree. Nevertheless, without conceding the merits of the Examiner's rejection, and merely in the interest of expediting prosecution, Applicants have amended claim 1 to more explicitly recite the feature of an inlet and an outlet provided on said container so as to allow the gas containing hydrogen to be continuously supplied into said container. Support for these amendments is provided *at least* by page 7, lines 12-21 and original claim 1 of the original disclosure. For *at least* the reasons already of record, Applicants submit that neither Magome, Urano, nor any combination thereof, teaches or suggests this feature.

Indeed, as explained in the present specification, for instance, because hydrogen is continuously supplied to synthetic silica from the gas containing hydrogen in the sealed container 2, the hydrogen concentration in the synthetic silica will not decrease even though time passes and hydrogen therein is consumed. *See e.g.*, paragraph 0030. Accordingly, because the

defects can be converted into stable bonds over a long period, light transmissivity will not decrease over a long period, and an increase in transmission loss can be prevented. *Id.*

Therefore, since neither Magome, Urano, nor any combination thereof, teaches or suggests all the recitations of claim 1, Applicants submit that claim 1 is patentable over the cited references for *at least* these reasons. As such, Applicants respectfully request that the Examiner withdraw this rejection.

II. Independent Claim 11

Claim 11 is rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 6,222,610 to Hagiwara *et al.* (hereinafter “Hagiwara”), in view of Urano. Applicants respectfully traverse this rejection for *at least* the reasons set forth below.

In response to Applicants’ previous arguments that the inclusion of the term “hydrogen” in Hagiwara’s disclosure is an obvious translation error since Japanese patent application JP 9-075355, on which Hagiwara is based, and from which Hagiwara claims priority, does not include the term “hydrogen” in the corresponding description, the grounds of rejection allege that JP 9-075355 bears no relevance to the patent cited by the grounds of rejection and is not the reference upon which the rejections are based.

Applicants disagree with the Examiner’s allegation that JP 9-075355 bears no relevance to the cited Hagiwara reference. Quite to the contrary, Hagiwara is based on JP 9-075355. Hagiwara also claims priority from JP 9-075355. Therefore, JP 9-075355 is unquestionably relevant to Hagiwara. Furthermore, while the Examiner is correct that JP 9-075355 is not the document upon which the current rejections are based, JP 9-075355 nevertheless provides strong evidence supporting Applicants’ position that the inclusion of the term “hydrogen” in Hagiwara

is the result of an obvious translation error, and the Examiner has not provided any evidence in fact and/or reasoning to rebut Applicants' arguments to this effect. Thus, Applicants' previous arguments in this regard remain un rebutted and the pending claims are patentable *at least* for the reasons already of record.

The grounds of rejection further allege that Hagiwara does disclose the use of hydrogen and that there is no evidence provided by Applicants that would disprove this. Applicants disagree. For example, Applicants' previous Amendment filed on November 30, 2006 provided ample evidence to disprove the allegation that Hagiwara discloses the use of hydrogen.

To this effect, Applicants, first, provided evidence that JP 9-075355, on which Hagiwara is based, and from which Hagiwara claims priority, does not include the term "hydrogen" in the corresponding description. Second, Applicants provided evidence that a skilled artisan would immediately recognize, from the context in which the solitary use of term "hydrogen" appears in Hagiwara, that the inclusion of the term "hydrogen" is an obvious error since hydrogen is not classified as either a "chemically stable gas" or a "rare gas," as purported. Third, Applicants provided evidence that Hagiwara does not contain an enabling disclosure of an exposure apparatus in which hydrogen is used as the inert gas, as alleged. Therefore, the Examiner's position that Applicants have not provided any evidence that Hagiwara does not disclose the use of hydrogen is unsupported.

Applicants' previous Amendment filed on November 30, 2006 also advanced arguments that a skilled artisan would immediately recognize that the inclusion of the term "hydrogen" in Hagiwara is an obvious typographical or translation error since hydrogen is not classified as either a "chemically stable gas" or a "rare gas," as purported in the passage of Hagiwara that is

relied upon by the grounds of rejection. However, the grounds of rejection do not provide any substantive response whatsoever to these arguments, as required by MPEP §707.07(f).¹

Therefore, Applicants have provided ample evidence to disprove the allegation that Hagiwara discloses the use of hydrogen and Applicants' previous arguments in this regard remain unrebutted. As such, the pending claims are patentable *at least* for the reasons already of record.

Finally, Applicants previously argued that, contrary to the requirements of MPEP §2121.01, the cited Hagiwara reference does not contain an enabling disclosure as to how a skilled artisan could implement hydrogen as a "chemically stable gas" or as a "rare gas" in the exposure apparatus described therein without undue experimentation. Again, the grounds of rejection do not provide any substantive response whatsoever to these arguments, as required by MPEP §707.07(f). Accordingly, Applicants' previous arguments remain unrebutted and the pending claims are patentable *at least* for the reasons already of record.

Nevertheless, without conceding the merits of the Examiner's rejection, and merely in an effort to expedite prosecution, Applicants have amended claim 11 to incorporate a limitation from dependent claim 14. Specifically, amended claim 11 now additionally recites that the hydrogen concentration of the gas containing hydrogen is set to be less than 4% by volume. The Examiner takes the position that this limitation is taught in U.S. Patent No. 6,793,980 to Ohtsu *et*

¹ MPEP §707.07(f) plainly requires that "[w]here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the Applicants' argument and answer the substance of it" (emphasis added).

al. (hereinafter “Ohtsu”) and that it would have been obvious to one of skill in the art to combine the cited references. Applicants respectfully disagree.

There would have been no motivation for a skilled artisan to combine the disparate teachings of Hagiwara, Urano and Ohtsu. In particular, Ohtsu is not a proper 103 reference because it constitutes nonanalogous art. The grounds of rejection cannot properly rely on the teachings of Ohtsu to arrive at the present invention because Ohtsu is neither drawn from the field of Applicants’ endeavor, nor is Ohtsu reasonably pertinent to the particular problem with which the inventors of the present application were concerned.⁴ Ohtsu relates to a method of forming photo-catalytic film made of titanium oxide on a base material and a laminated material. Thus, the field of the invention of Ohtsu is completely different from that of the optical apparatus recited in amended claim 11. Therefore, a person of ordinary skill in the art would not have been motivated to refer to Ohtsu for improving an optical apparatus. In other words, Ohtsu discloses a manufacturing method of photo-catalytic film in which a nitrogen gas containing hydrogen is used, and does not disclose an apparatus in which an optical element is subjected to gas containing hydrogen during use.

Accordingly, Applicants submit that claim 11 is patentable for *at least* the reasons discussed above. Thus, Applicants respectfully request that this rejection be withdrawn.

⁴ MPEP §2141.01(a); “[i]n order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” MPEP §2141.01(a); *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992).

III. Dependent Claims 2-10, 12-21, 27 and 28

Claims 5-10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Magome in view of Urano. Claims 15-21 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hagiwara in view of Urano. Claims 2-3 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Magome, in view of Urano, and further in view of JP 2000-095535 to Fujinoki et al. (hereinafter “Fujinoki”). Claims 12-13 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hagiwara, in view of Urano, and further in view of Fujinoki. Claim 4 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Magome, in view of Urano, and further in view Ohtsu. Claim 14 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hagiwara, in view of Urano, and further in view of Ohtsu. Claim 27 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Magome, in view of Urano, and further in view of U.S. Patent No. 5,867,618 to Ito et al. (hereinafter, “Ito”). Finally claim 28 is rejected under 35 § U.S.C. 103(a) as allegedly being unpatentable over Hagiwara in view of Urano, and further in view of Ito.

As an initial matter, Applicants note that claim 14 has been canceled without prejudice or disclaimer and, therefore, the Examiner’s rejection in this regard is now moot.

Further, Applicants submit claims 2-10, 12-13, 15-21, 27 and 28 are patentable at least by virtue of their respective dependencies. Therefore Applicants request withdrawal of the above rejections.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Application No.: 10/649,657

Attorney Docket No.: Q76816

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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